

IN THE CLAIMS:

Please CANCEL claims 16-19 without prejudice to or disclaimer of the recited subject matter.

Please AMEND claims 1-6, and ADD new claim 20, as follows. For the Examiner's convenience, all claims currently pending in this application have been reproduced below:

1. (Currently Amended) A charged particle beam exposure ~~system which~~ apparatus that draws a pattern on an object to be exposed by irradiating a plurality of charged particle beams ~~emitted from a plurality of element optical systems, said system~~ to the object based on drawing data, the apparatus comprising:

(a) a storage device for storing:

(i) a standard dose data ~~for controlling the irradiation of~~ which represents an irradiation duty of each of the plurality of the charged particle beams to an object to be exposed; on each of the irradiation positions to the object, depending on the pattern,

(ii) ~~plural pieces of proximity effect correction data for correcting the irradiation of the charged particle beams for each incidence position with respect to the object to be exposed, in order to reduce the~~ reducing an influence of a proximity ~~effect; effect,~~ and

(iii) calibration data for ~~correcting variations in the~~ reducing irradiation dose variations among the plurality of the charged particle beams ~~emitted from the plurality of element optical systems; and~~

(b) ~~a controller for controlling the irradiation of each of the charged particle beams, based on the standard dose data, the proximity effect correction data, and the calibration data~~ computing device for correcting the standard data by the proximity effect data with respect to the irradiation duty on each of the irradiation positions and calibrating the standard data by the calibration data with respect to the irradiation duty of each of the plurality of the charged particle beams, to generate the drawing data.

2. (Currently Amended) A charged particle beam exposure ~~system~~ apparatus as claimed in claim 1, wherein the standard dose data includes bit map data which is determined depending on the pattern to be exposed.

3. (Currently Amended) A charged particle beam exposure ~~system~~ apparatus as claimed in claim 1, wherein the standard dose data includes the data defining the bit map data and a ratio of the irradiation time with respect to the non-irradiation time.

4. (Currently Amended) A charged particle beam exposure ~~system~~ apparatus as claimed in claim 1, further comprising obtaining means for obtaining the calibration data by measuring variations in the irradiation dose among a plurality of the charged particle beams.

5. (Currently Amended) A charged particle beam exposure ~~system~~ apparatus as claimed in claim 4, wherein said obtaining means includes a Faraday cup.

6. (Currently Amended) A charged particle beam exposure ~~system~~ apparatus as claimed in claim 1, further comprising selecting means for selecting one piece of data suitable for the proximity effect correction with respect to the standard dose data, from plural pieces of the proximity effect correction data stored in said storage device.

7. (Previously Presented) A method for correcting exposure data for drawing a pattern on an object to be exposed by a plurality of charged particle beams emitted from a plurality of element optical systems, said method comprising the steps of:

creating a standard dose data for each irradiation position of the charged particle beams in order to expose a standard pattern on the object to be exposed;

creating or renewing a plurality of the proximity effect correction data for each irradiation position, depending on conditions of the object to be exposed;

selecting any one piece of the proximity effect correction data, from plural pieces of the proximity effect correction data for each irradiation position;

performing a proximity effect correction with respect to the standard dose data based on the selected data, and exposing a pattern on the object to be exposed;

evaluating the exposed pattern, and judging whether the selected one piece of proximity effect correction data is the optimum data for controlling the standard dose data;

determining the optimum proximity effect correction data for controlling the standard dose data in accordance with the judgment;

measuring, by a sensor, the irradiation dose of the charged particle beams from each element optical system, the irradiation dose having been subjected to a correction by the proximity effect correction data; and

determining the calibration data of each of the element optical systems, based on the irradiation dose measured in said measuring step.

8. (Original) A method for correcting exposure data as claimed in claim 7, wherein whether the selected one piece of proximity effect correction data is the optimum data for controlling the standard dose data is judged by comparing the exposed pattern and the standard pattern by a visual inspection.

9. (Original) A method for correcting exposure data as claimed in claim 7, wherein whether the selected one piece of proximity effect correction data is the optimum data for controlling the standard dose data is judged by evaluating means for comparing the exposed pattern and the standard pattern.

10. (Original) A method for correcting exposure data as claimed in claim 7, wherein the standard dose data includes bit map data which is determined depending on the pattern to be exposed.

11. (Original) A method for correcting exposure data as claimed in claim 7, wherein the standard dose data includes the data defining the bit map data and the ratio of the irradiation time with respect to the non-irradiation time.

12. (Original) A method for correcting exposure data as claimed in claim 7, wherein the proximity effect correction data is data not depending on the pattern to be exposed, but depending on the conditions of the object to be exposed.

13. (Previously Presented) A method for correcting exposure data as claimed in claim 12, wherein the conditions are determined as at least one parameter among the fundamental conditions of the object to be exposed, the resist material, and a backward-scattering radius.

14. (Original) A method for correcting exposure data as claimed in claim 7, wherein the sensor in said measuring step includes a Faraday cup.

15. (Previously Presented) A method for manufacturing a device, comprising the steps of:

providing an exposure system as claimed in claim 1;

exposing a pattern on a wafer using the exposure system; and

assembling a device by processing the wafer on which the pattern has been exposed.

16-19. (Cancelled)

20. (New) A charged particle beam exposure apparatus as claimed in claim 1, further comprising:

a blanker array which has a plurality of first apertures for passing the plurality of the charged particle beams and a plurality of electrodes for deflecting the charged particle beams;
and

a stopper array which has a plurality of second apertures for passing the plurality of the charged beams non-deflected by the plurality of electrodes,

wherein the irradiation duty is controlled by the blanker array and the stopper array based on the drawing data.